

ABSTRACT OF THE DISCLOSURE

According to the present invention, there is provided a bias current generating circuit having:

5        a bandgap reference circuit connected to a high power supply voltage terminal for receiving a high power supply voltage and a low power supply voltage terminal for receiving a low power supply voltage, and having a first output terminal for outputting a first voltage  
10        which is constant regardless of a temperature, and a second output terminal for outputting a second voltage which changes in accordance with a temperature;

         a first low-potential-side constant-current source circuit which includes a first resistor connected  
15        between the low power supply voltage terminal and a first terminal, and a first current path connected between the first terminal and a first current supply terminal, receives the second voltage as a reference potential, and outputs a first electric current  
20        dependent on a temperature and corresponding to the first resistor from the first current supply terminal;

         a second low-potential-side constant-current source circuit which includes a second resistor connected  
25        between the low power supply voltage terminal and a second terminal, and a second current path connected between the second terminal and a second current supply terminal, receives the first voltage as a reference potential, and outputs a second electric current independent of a temperature and corresponding to the  
30        second resistor from the second current supply terminal;

         a third resistor having one end connected to the high power supply voltage terminal;

         a third low-potential-side constant-current source circuit which is connected between the other end of the  
35        third resistor and the low power supply voltage terminal, receives the first voltage as a reference

potential, and supplies a temperature-independent third electric current to the third resistor;

5 a high-potential-side constant-current source circuit which includes a fourth resistor connected between the high power supply voltage terminal and a third terminal, and a third current path connected between the third terminal and a third current supply terminal, receives a third voltage at the other end of the third resistor as a reference potential, and outputs  
10 a fourth electric current independent of a temperature and corresponding to the fourth resistor from the third current supply terminal; and

a current mirror circuit which is connected to the high power supply voltage terminal to receive the high  
15 power supply voltage, and generates a bias current in accordance with an electric current supplied from a reference current terminal,

wherein the first, second, and third current supply terminals are connected to the reference current  
20 terminal.